Work Task E13: **McAllister Lake, Imperial National Wildlife Refuge**

Partners: U. S. Fish and Wildlife Service(FWS)
U. S. Bureau of Reclamation (Reclamation)

Point of Contact: Nathan Lenon, LC-2457 (702) 293-8015

Purpose: The goals are to determine whether water quality in the lake can be improved by dewatering the lake, and inducing groundwater recharge to dilute the high salt concentrations. This type of procedure is being evaluated as a tool for using isolated bodies of water that have poor water quality initially for protected habitats for native fish.

Location: River Mile 61, Arizona Side, Imperial National Wildlife Refuge (INWR).

FY05 Estimate: $40,000 for in-house staff for water quality monitoring and assessment of the backwater for native fish.

Project Description: McAllister Lake is a shallow 40-acre floodplain lake approximately 1,000 meters east of the Colorado River on INWR. The isolated backwater is seepage-driven, with no known surface connection to the Colorado, or any other body of water. The lack of freshwater flushing had caused the lake to become highly saline, to the extent that it supported very limited numbers of fish and waterfowl.

Working jointly with the INWR, Reclamation initiated a series of experimental pump-tests, which dewatered the lake to about one-fourth of its normal volume. Before, during, and after these tests, a variety of environmental data was collected to measure the lake's response to the pumping. This monitoring includes groundwater and surface water levels, and water quality measurements of the river, lake, and surrounding water table.

These pump tests were conducted from December 2002 through March 2004, during the fall and winter months only, to avoid potential impacts to Yuma clapper rails. March of 2005 represents an important milestone, in that we will have collected one-year of data collected following the completion of the final pump-test.

To date, the 5 pump-tests have been successful in decreasing the lake's salinity by approximately 75%, with relatively minor increases since the completion of pumping. Completion of a report, detailing the methods and results of this project, is planned

for summer of 2005. Discussions between project stakeholders are ongoing as to when the lake will be ready for native fish introduction.